**Ocean Science
Discussions**

Interactive comment on "How well can we derive Global Ocean Indicators from Argo data?" *by* K. von Schuckmann and P.-Y. Le Traon

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Dear Mr. Marcelja,

Thank you very much for your interest in our work. With the following text we will comment on your contribution and questions.

The results of Figure 2 of our paper and those of Leuliette and Miller (their Figure 2) can be not directly compared. In our results, the mean seasonal cycle is removed from each profile (either a recent Argo climatology, or WOA05, see figure legend), and then the box-averaging method is applied as described in the text, basing the global indicator calculation. This means that we do not see the signature of the annual cycle in the time series of Figure 2. What we see are signatures of superimposed interannual

variability which possibly includes a signature of 'an interannual seasonal fluctuation'. No information of the phase of the seasonal cycle of global indicators can be drawn from our Figure 2, and hence, it can be not directly compared to Figure 2 of Leuliette and Miller, 2009.

A detailed description of the ISAS processing tool including its errors/uncertainties/quality can be found in von Schuckmann et al. (2009) and Gaillard (2010, both cited in the paper). For our purpose, the ISAS tool is only used for quality control processing to obtain a re-qualified Argo data set. No ISAS-gridding is applied. Hence, it is not the purpose of the paper to discuss the quality of the ISAS-tool as we present our own developed method for global indicator calculations, based on the Argo data alone.

If you have further question please do not hesitate to contact us.

Yours sincerely,

Karina von Schuckmann and Pierre-Yves Le Traon

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